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| EXAMINER | |
|---|---|
| EDWARDS, PATRICK L | |

| ART UNIT | PAPER NUMBER |
|---|---|
| 2624 | |

DATE MAILED: 07/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 09/895,063 | REED ET AL. | |
| | Examiner | Art Unit | |
| | Patrick L. Edwards | 2624 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *25 April 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-5,8-12,16,17,19-21,24 and 28-40* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *1-5,11,16,19,21,24,28-32,36,37 and 39* is/are allowed.

6)☒ Claim(s) *8-10, 12, 17, 20, 35, 38, 40* is/are rejected.

7)☒ Claim(s) *17,33,34 and 40* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

## DETAILED ACTION

1. The response received on 04-25-2006 has been placed in the file and was considered by the examiner. An action on the merits follows.

### *Response to Arguments*

2. The arguments filed on 04-25-2006 have been fully considered. A response to these arguments is provided below.

### 35 USC 112, Second Paragraph Rejections

*Summary of Argument:*

Applicant argues that the 112(2) rejection to claim 20 should be withdrawn because the word "wherein" serves as a link between the preamble and the body of the claim.

*Examiner's Response:*

Applicant's argument is persuasive. Claim 20 will be rejected solely on art.

### Prior Art Rejections

*Arguments and Responses:*

**(A)** Applicant argues that—in light of the recent CAFC decision of *in re johnston*—examiners should no longer be giving claims their broadest reasonable interpretation (see 'remarks' pg. 9, 3rd block down).

*Response:*

The holding of *in re johnston* is inapplicable to the instant case. Contrary to much of the misleading rhetoric in the patent blogosphere, the case did not stand for the broad proposition that the office is no longer to give claims their broadest reasonable interpretation. It merely held that when a specific term (for example, "pipe" or "baffle") is defined in the specification, that definition—rather than a dictionary definition—should be used to interpret the claims.

The instant claim does not have a singular term whose meaning is being questioned. The instant claim also does not have any singular terms that are expressly defined in the specification.

If applicant disagrees with the examiner's interpretation of this case, applicant is respectfully invited to re-read the case itself (the opinion is quite short and is cited as *In re Johnston*, 77 USPQ2d 1788 (CAFC 2006)). In the meantime, the instant claims will be given their broadest reasonable interpretation. The previous rejection will simply be repeated below.

**(B)** Respecting claim 12, applicant argues that the means-plus-function language invokes limitations from the specification that are not taught by, Howell, the cited prior art reference (remarks pgs. 9-10).

*Response:*

The applicant's interpretation of how 112(6) applies to claim 12 and the cited prior art is incorrect on several different levels. For one, the equivalents standard cited by applicant is incorrect. Secondly, the fact that the applicant is incorrect about equivalence standards is moot, because the structure described in the instant specification is the same as the structure shown in the prior art. The examiner will briefly elaborate on these two points below.

(1) Applicant continues to use the language "substantially the same," even though this is not the proper 112(6) test. Applicant is respectfully reminded that under 112(6), the prior art reference has to disclose the claimed means or equivalents thereof. Applicant's arguments are unpersuasive in that they assume that the 112(6) equivalence standard is "substantially the same." This is the standard used for the doctrine of equivalents, but does not apply to interpretation of 112(6) limitations. For 112(6) limitations, here is the law:

> The plain and unambiguous meaning of paragraph six is that one construing means-plus-function language in a claim must look to the specification and interpret that language in light of the corresponding structure, material, or acts described therein, and *equivalents thereof*, to the extent that the specificication provides such disclosure (emphasis added).

(2) Claim 12 is claimed as a "system." This is an apparatus claim.. This means that the *structure* defined by the specification must distinguish itself from the cited prior art. The structure defined in the specification shows a camera and a workstation (see Figure 1). Howell shows a camera and a workstation at Figure 9.

(C) Applicant states that "If claim 40 is found allowable, applicants will cancel claim 17. If claim 40 is rejected, both claims will be appealed."

*Response:*

Claims 17 and 40 are rejected. The procedure for filing an appeal brief can be found at 37 CFR § 41.37

***Allowable Subject Matter***

3. Claims 1-5, 11, 16, 19, 21, 24, 28-32, 36, 37, and 39 are allowed.

4. Claims 33 and 34 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Claim Objections***

5. Claims 17 and 40 are exact duplicates of one another.

*Claim Rejections - 35 USC § 102*

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 8, 9, 20, 35, and 38 are rejected under 35 U.S.C. 102(e) as being anticipated by Messing et al. (USPN 6,466,618).

Regarding claim 8, Messing discloses capturing a plurality of low resolution electronic images of a subject, the subject defining a hidden reference signal (col. 3 lines 21-25: The coordinate system of the captured low resolution image is a hidden reference signal.).

Messing discloses usng said reference signal to determine alignment of a plurality of said low resolution images (col. 4 lines 24-36).

Messing discloses combining data from some but not all of said low resoluton images into a high resolution image (col. 9 lines 10-24).

Regarding claim 9, Messing discloses that the low resolution imags are aligned in accordance with the holes in a Bayer square (see Fig. 7 in conjunction with col. 6 lines 18-42).

The claim 35 limitation is addressed above with respect to claim 8 (see col. 9 lines 10-24).

Regarding claim 20, Messing discloses a method of aligning multiple low resolution images to form a high resolution image (Messing abstract, and elsewhere throughout specification).

Messing further discloses a hidden reference signal embedded in the low resolution images and visible image content are used to align said images (Messing col. 3 lines 21-25 and col. 4 lines 24-36: The reference describes a hidden reference signal embedded in the low resolution images (which is visible image content) that is used to align the images. These limitations are also discussed above with respect to claim 8.).

Referring to claim 38,

8. Claim 12 is rejected under 35 U.S.C. 102(e) as being anticipated by Howell (USPN 6,570,613).

Howell discloses a system for generating a high resolution image from a plurality of relatively low resoluton images whose pixel values are in a Bayer square configuration (col. 9 lines 48-60: The reference describes that the CFA is a bayer pattern CFA).

Howell further discloses means for determining which of said images align with each pixel position of a Bayer square to within a specified tolerance (col. 9 lines 16-26: The reference describes a specified tolerance of a one pixel shift. This is equivalent ot the one pixel shift discloed in applicant's specification).
Howell further discloses means for combining multiple aligned low resolution images to fill in holes in a Bayer square (see e.g. Fig. 11: Again, the reference is sufficient to meet the claim limitation even with 112 sixth paragraph invoked.).

***Claim Rejections - 35 USC § 103***

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

10. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Messing (USPN 6,466,618) in view of Wolf (USPN 5,767,987)

Referring to claim 10, a plurality of low resolution images being captured and only those low resolution images which align to within a specified tolerance with the holes in a Bayer square being used to form said composite image is not explicitly explained by Messing. Messing discloses an optimum tolerance for low resolution images should fall within (Messing col. 9 lines 1-10), but fails to expressly disclose that those that do not fall within this tolerance are discarded. However, Wolf discloses that there is a certain range that displacement must fall within (Wolf col. 7 lines 20-25). It would have been obvious to one reasonably skilled in the art at the time of the invention to modify Messing's Bayer square aligning method by introducing an offset tolerance as taught by Wolf. Such a modification would have allowed for a more efficient system that discarded images to minimize error (Wolf col. 6 line 60 – col. 7 line 25).

11. Claims 17 and 40—which are exact duplicates of one another—are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Messing et al (USPN 6,466,618) and Rhoads (USPN 5,832,119).

Messing discloses the following limitations:

- capturing a series of low resolution images, each of which contains a reference signal (col. 3 lines 21-25: The coordinate system of the captured low resolution image is a hidden reference signal.).
- reading the reference signal from each of said low resolution images (col. 4 line 64 – col. 5 line 9; col. 6 lines 45-50; and elsewhere throughout the specification: The reference describes forming a high

resolution image by reading the low resolution images and the reference signal (i.e. low resolution lattice).).

- aligning the low resolution images in accordance with the reference signal (col. 4 line 64 – col. 5 line 9; col. 7 lines 39-56; and elsewhere throughout the specification: The reference describes that the high resolution image must be spatially aligned with the lattice of the low resolution images
- combining the aligned low resolution images into a high resolution image (col. 5 lines 5-7).

Messing fails to expressly disclose that the reference signal is a watermark signal. Messing discloses a low resolution lattice as a reference signal, but this low resolution lattice does not appear to be embedded into the low resolution images. Rhoads, on the other hand, discloses embedding watermark signals in an image (in a gridlike fashion) for the purpose of determining the orientation of that image (Rhoads col. 71 lines 22-59).

It would have been obvious to one reasonably skilled in the art at the time of the invention to modify a system like Messing's—which aligns and combines low resolution images by using a grid-like reference signal—by representing such a reference signal as a digital watermark as taught by Rhoads. Such a modification would have allowed for a reference signal that was totally invisible, and, further, would have allowed for a reference signal that conveyed further information such as copy protection information (see Rhoads col. 71 lines 32-36).

*Conclusion*

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patrick L Edwards whose telephone number is (571) 272-7390. The examiner can normally be reached on 8:30am - 5:00pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Mehta can be reached on (571) 272-7453. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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ple

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